SAMPLE

(Name of Facility/midwife practice)
Policy and Procedures for Newborn Hearing Screening

PURPOSE:
Undiagnosed congenital hearing loss has been documented to negatively impact language, academic and social development in children. Newborn hearing screening is the first step to early diagnosis and intervention of hearing loss. This document serves as a guideline for implementation of newborn hearing screening to ensure that all babies born at (Midwifery or Birthing Center) and if appropriate; other properly trained local midwives who can use the screening equipment. All infants who fail the initial hearing screen will be rescreened within a month and all those who fail at least one (either) ear both times are referred for a full audiologic evaluation. Michigan Early Hearing Detection and Intervention (EHDI) program is the liaison between the midwives and the Michigan Coalition for Deaf, Hard of Hearing and DeafBlind People who obtained the grant to purchase and retains ownership of the AABR hearing screening equipment that is being made available to the out-of-hospital births in MI.

POLICY:
All newborns will undergo an initial hearing screening no sooner than 12 hours of age & prior to one week of age.

Upon acceptance to (Midwifery or Birthing Center) all families will receive printed information from the State of Michigan related to newborn hearing screening. Whenever possible, this information should be provided in the family's native language. (Available in English, Arabic and Spanish.) Staff should discuss with parents/caregivers the importance of hearing screening.

The family of any newborn who refers on newborn hearing screening will be given written information on the importance of follow up testing within a month. In addition, upon two failed screens, contact information for a pediatric diagnostic audiology facility will also be given. For babies of (Midwifery or Birthing Center) who have failed two screens, they will be referred to EHDI approved pediatric Audiology center for a full audiological evaluation as soon as possible. (Between 1-3 months of age.)

All newborns delivered and or tested by (Midwifery or Birthing Center) will be screened for high-risk factors at the time of screening. Any factors identified will be communicated to the family, the baby's primary health care provider (PCP) (if known) and to EHDI.

Screening Personnel/Scope:
Online NBHS training is strongly encouraged prior to the hands-on-training sessions to become familiar with all aspects of the Newborn Hearing Screening program. Screening is conducted only by personnel who have received training and demonstrated competence in GN Otometrics MADSEN AccuScreen AABR screening machine. Appropriate personnel may include, but are not limited to: Midwives, Certified Professional Midwives, Doula's, Certified Nurse Midwives, identified and appropriately trained patient care technicians and/or Audiologists. If additional training is needed for new staff or new midwife or for a refresher course if significant time has lapsed, please contact EHDI or the Equipment Manufacturer to find out how to obtain appropriate training. www.michigan.gov/ehdi

Patient Assessment Criteria:

1. All newborn infants delivered will have a hearing screen, unless parents refuse. (See section 3 under **"Communicating Results with Family"** for further instructions.)
2. The following are recommended to ensure optimal test conditions:
   a) Screening is performed while infant is sleeping or very quiet. (sleeping is best.)
   b) The hearing screen should be performed in a quiet room or location with consideration given to staffing and infant behavior. Screening should **not** be completed before **twelve hours of age.**
   c) The infant should be greater than 37 weeks, post-conception age at the time of the screen.
   d) If outer-ear deformities exist, do NOT screen that ear. You may screen the other ear if it appears normal. The deformed ear is an automatic referral to a pediatric audiologist for a full audiologic evaluation).
   f) If an infant is transferred out of your care to a hospital or NICU, it is very probable that the hospital will ensure a hearing screen is performed.
3. The medical history for all infants should be reviewed to identify any risk indicators for late onset hearing loss (LOHL). A recommendation for monitoring should be shared with the family verbally and in writing. The infant's pediatrician should also be informed in writing of the recommendation for monitoring. A list of risk indicators from the current position statement of the Joint Committee on Infant Hearing (2007) follows:
   a) Family history of hereditary childhood sensorineural hearing loss. (Not just parents/grandparents/great grandparents, but cousins, aunts and uncles too.)
   b) In utero infections, such as CMV, rubella, syphilis, herpes and toxoplasmosis.
   c) Craniofacial anomalies, including those with abnormalities of the pinna and ear canal, ear tags, ear pits and temporal bone anomalies.
   d) Culture-positive postnatal infections associated with sensorineural hearing loss including confirmed bacterial and viral (especially herpes viruses and varicella) meningitis.
   e) Hyperbilirubinemia at a serum level requiring exchange transfusion.
   f) Ototoxic medications, including but not limited to the aminoglycosides, used in multiple courses or in combination with loop diuretics.
   g) Birth weight less than 1500 grams or gestational age less than 35 weeks.
   h) Caregiver concern regarding hearing, speech, language or developmental delay.
   i) Neonatal intensive care of 5 or more days.
   j) NICU with any of the following regardless of length of stay:
      i. ECMO, assisted ventilation, exposure to ototoxic medications (Gentamicin and Tobramycin) or loop diuretics (Furosemide/Lasix), and hyperbilirubinemia that requires exchange transfusion.
   k) Syndromes associated with hearing loss or progressive or late-onset loss:
      i. Neurofibromatosis
      ii. Osteopetrosis
      iii. Usher syndrome
      iv. Waardenburg,
      v. Alport
      vi. Pendred
      vii. Jervell and Lange-Nielson.
   k) Neurodegenerative disorders, such as Hunter syndrome; or sensory motor neuropathies, such as Friedreich ataxia and Charcot-Marie-Tooth syndrome.

PROCEDURE:

Implementation:

1. Set up the Newborn Hearing Screener in a quiet place with no fans, AC, ventilation, cellphones and etc. nearby.
    a. Connect the probe and electrode cables to the screener.
    b. Test the probe to ensure it works.
    c. Assemble supplies.
    d. Check electrode cable assembly.
    e. Turn on hearing screen equipment.
    f. Complete the Patient Information
    g. Select screening mode.
2. Enter appropriate patient demographics and screening information.

Initiation of testing:

1. Inform family that baby will have a hearing screening. Provide the family with the Michigan EHDI brochure if you have not already done so. (if possible, in the family's native language). Reassure family that this is an easy and painless test which should take no more than 15 minutes.
2. All screening personnel shall follow hand washing and infection control practices before beginning screening by following established hygienic precautions.
3. Prepare the infant for screening. Ideal time is right after the baby has been fed and changed. Swaddling is highly recommended.
4. Place electrode sensors* with attached clips on the baby in the proper locations.
    Black (vertex - forehead)
    Red (common - cheekbone)
    White (nape of neck)

Note: Hydrogel on the electrodes can dry out. Make sure packages are closed properly. Dried out Hydrogel may cause high electrode impedance and an incorrect "refer" could result. If they are dry and not sticking, you can try to moisten it up with a drop or two of saline solution to see if that will work before opening a new pack.

5. Select an eartip that fits the baby's ear canal. The clear "tree" usually works best, but if it does not, try another to get a good fit. Unsuitable sized eartips can be uncomfortable for the baby and cause skin irritation.
6. Gently push the eartip onto the probe tip until it rests firmly against the base of the probe. Turn the tip gently when attaching or removing the tip. Hang onto the probe bod and NOT the cable. Use the same ear tip for both ears unless you suspect the first ear has an ear infection. Then disinfect or use a new one before placing in the other ear.
7. Insert the probe with the eartip in the baby's ear canal. Check impedance and adjust sensor connection if necessary.
8. Place ear tip in baby's ear.
7. Decide which ear you wish to perform the test.
9. Press START next to ABR test that corresponds to the ear you are testing when all three impedance and balance indicators are green.
10. Monitor occasionally. If the test slows or stops, pause it and check for interference. Consult the Help tutorial for information on how to alleviate interference.
11. Pause may only be used up to 2 minutes. Over that, and the test must be restarted.
12. Wait for electronic result on computer.

13. Perform screening on other ear.
14. Remove electrodes and the ear couplers from the infant and record results.
15. When screening is complete, discard all disposable supplies, clean wires and transducers and return newborn to mother using proper identification procedures.
16. Print results if appropriate.
17. If unable to complete test due to excessive myogenic activity (i.e., hunger) leave electrode couplers in place, comfort infant and retest infant. Avoid screening time of greater than 60 minutes per infant.
18. Record and communicate results (see below).

Documentation of screening:

1. Document results in Log book and in infant's chart.
2. The hearing screen form located in the state newborn screening card will be completed with all requested information including, test date, results and method (A-ABR) or document an incomplete reason.
   Please ensure Forms will be mailed to the State of Michigan's Newborn Hearing Screening Program ASAP, or at least weekly.
3. The sticker printed from the screener will be placed in the progress notes of the newborn's record. Include all tests that were completed (should be no more than 2).
4. The infant's name, MRN, Kit number, test date and results and initials of the screener will be logged into the hearing screen log book. (if applicable)
5. Complete billing sheet. (Nominal fees will be collected starting in year 2 to pay for ongoing screening and to keep this program going.) Forward fees collected to the Coalition. This can be done once a quarter. (Every three months, if fees are not collected)

Communicating results with family:

1. Bilateral Pass
   a) Provide family verbally and in writing the results of the test.
   b) Make recommendations for monitoring if infant has risk indicator for Late Onset Hearing Loss.
   c) Provide list of pediatric audiology facilities for further testing at 24-30 months of age for babies with risk factors.
2. Bilateral and Unilateral Refer
   a) Provide family verbally and in writing the results of the test.
   b) Discuss need for follow up.
   c) Set up appointment for rescreen in one or two weeks, when communicating results.
3. If family declines to have hearing screening completed:
   a) If parents refuse the screening, a "Waiver of Newborn Hearing Screening" must be completed (Attachment A).
   b) Parents must sign and date "Waiver" form. This form should be placed in the baby's chart. Document parent refusal on the state hearing card by marking the "refused" box. Keep this form for your records, do NOT send to EHDI.

Re-screening: (before one month of age)

1) Follow PROCEEDURES: directions above for screening.
2) RETEST BOTH ears, even if only one failed the first time.
3) Record results and send to EHDI, and follow "Communicating results with family" above.
4) If either ear fails the second screening, (even if this is the other ear) this is a second refer, and a referral for a Diagnostic evaluation with an audiologist is indicated.

5) Help the family set up an appointment with a proper site. (Contact EHDI if you need help finding a site or making the appointment.)
6) Make this appt ASAP. Waiting too long may require the use of sedation for accurate results if the baby is over 3 months of age.

If an infant is unable to be tested for any reason, for the initial or rescreen, schedule another time within the next week or so. Missed tests need to be documented in all of the above locations.

Equipment Issues:
The equipment is owned by the Michigan Coalition for Deaf, Hard of Hearing and DeafBlind People. Please contact Nan Asher at EHDI or the Coalition President if you are having persistent trouble beyond what the troubleshooters below can help you with.

If you have any questions or problems while testing you may refer to the troubleshooting guide for help. The equipment manufacturer/trainer is also available: Wendy Switalski, AuD at Audiology Systems. The office number is (855) 283-7978 or Shannon Palmer, AuD from Central Michigan University is available at (989) 774-7288

In the event of equipment failure, all attempts will be made to have it repaired immediately. If repair cannot be made, the manufacturer sales representative will be called for temporary replacement until a new machine can be secured.

Reordering Supplies: please order supplies from: Nan: (517) 335-8273 or via email at: AsherN@michigan.gov.

Order more supplies before you reach the end of them. (1 or 2 or possibly 3 left) depending upon your frequency of screening babies. Order enough supplies to last you 3-6 months.

However, do not stockpile too many supplies as the electrodes have expiration dates and we do not want them to go bad before we can use them.

Attachment A

Insert Practice logo here	Insert Address Here

Birth Date ____/____/____

Newborn's Name _____ , _____
(Last) (First)

Kit # _____

Today's Date ____/____/____

HEARING SCREENING REFUSAL

Benefits of Newborn Hearing Screening

In order to identify and treat infants with hearing loss as early as possible, a hearing screening is provided as part of the standard care of infants. The test causes no pain to the infant. Hearing loss is the most common birth condition in infants, occurring in 1-3 babies per 1,000. Early identification of hearing loss may prevent negative effects on speech, language, and social development.

I have read the above information about the benefits of newborn hearing screening. I understand the consequences of refusing to have my baby's hearing screened and release the birthing center and/or my midwife: _____, and all related staff from any liability with such request.

I request that the newborn hearing screening test NOT be performed for the infant stated above. I fully accept responsibility for choosing not to have the newborn hearing screening performed on my baby.

_____ _____
Parent/Legal Representative NAME (Print) Witness NAME (Print)

_____ _____
Parent/Legal Representative SIGNATURE Witness SIGNATURE

Date and Time _____